



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------------|------------------|
| 10/601,525 | 06/24/2003 | Hiroyuki Saito | 01306.00099 | 7538 |
| 5514 | 7590 | 08/09/2005 | | |
| FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112 | | | EXAMINER MORRISON, THOMAS A | |
| | | | ART UNIT 3653 | PAPER NUMBER |
| DATE MAILED: 08/09/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,525

Applicant(s)

SAITO, HIROYUKI

Examiner

Thomas A. Morrison

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/6/03, 12/15/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the recited diameter of the spindle being smaller than the diameter of the conveyance roller in claims 4 and 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 3-4 and 11-12 are objected to because of the following informalities: (1) all instances of "diameter" in claim 3 should be -- a diameter --; (2) all instances of "diameter" in claim 4 should be -- a diameter --; (3) all instances of "diameter" in claim 11 should be -- a diameter --; and (4) all instances of "diameter" in claim 12 should be -- a diameter --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. There are several antecedent basis problems and indefiniteness problems with the claims. The following rejections are merely exemplary of the antecedent basis and indefiniteness problems with claims 1-26. Applicant should review the claims and correct all problems.

As one example, it is unclear in claim 1, what is meant by the recited "wherein the bearing supports the conveyance roller as to locate a perpendicular direction of a line coupling the two contact portions within a varying range of a vector direction of

Art Unit: 3653

exertion force exerted to the bearing at **a time of stop and operation** of the conveyance roller.” (emphasis added). It is unclear what is meant by a time of stop and operation.

Claim 2 recites the limitation "the two vectors" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the combined vector direction" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 7, it is unclear what is meant by the recited “wherein the chassis supports the bearing as to locate a perpendicular direction of a line coupling the two contact portions within a varying range of a vector direction of exertion force exerted to the bearing at **a time of stop and operation** of the conveyance roller.” (emphasis added). It is unclear what is meant by a time of stop and operation.

Claim 8 recites the limitation "the two vectors" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the circumference" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 10, it is unclear what is meant by the recited “wherein the bearing supports the conveyance roller as to locate a perpendicular direction of a line coupling the two contact portions within a varying range of a vector direction of exertion force exerted to the bearing at **a time of stop and operation** of the conveyance roller.” (emphasis added). It is unclear what is meant by a time of stop and operation.

Also in claim 10, it is unclear if the recited "the two contact portions" in line 18 refer back to the two contact portions of the bearing or the two contact portions of the chassis.

Claims 10-16 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. In particular, there is insufficient structural relationship recited in claim 10, between the recited elements (e.g., the chassis, the bearing, and the conveyance roller), to understand how the chassis supports the bearing to result in the exertion force vector direction, as claimed. What structural relationship allows this to occur?

Claim 11 recites the limitation "the spindle" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "the spindle" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the spindle" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the line coupling the two contact portions pertaining respectively to the bearing and the chassis" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the two vectors" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 14, it is unclear what is meant by the recited “perpendicular direction of the line coupling the two contact portions pertaining respectively to the bearing and the chassis coincides to a combined vector direction of the two vectors existing at each pole in the varying range of the vector direction of the exertion force or is located closer to the vector direction of the exertion force at the time of stop of the conveyance roller than the combined vector direction.”

Claim 15 recites the limitation "the two contact portions pertaining respectively to the bearing and the chassis" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 16, it is unclear which of the contact portions are referred back to in claim 15. The chassis has two contact portions. Which contact portion is claimed?

Regarding claim 16, it is unclear what is meant by the recited “contact portion pertaining to the bearing and the contact portion pertaining to the chassis are located on the **same line passing the center of the conveyance roller**”. (emphasis added).

Regarding claim 17, it is unclear what is meant by the recited “wherein a perpendicular direction of a line coupling the two contact portions is located, in an arbitrary cross section perpendicular to the axial direction of the conveyance roller, within a varying range of a vector direction of exertion force exerted to the bearing at a **time of stop and operation** of the conveyance roller.” (emphasis added). It is unclear what is meant by a time of stop and operation.

Claim 18 recites the limitation "the two vectors" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 20, it is unclear what is meant by the recited “wherein a perpendicular direction of a line coupling the two contact portions is located, in an arbitrary cross section perpendicular to the axial direction of the bearing, within a varying range of a vector direction of exertion force exerted to the bearing at a **time of stop and operation** of the conveyance roller.” (emphasis added). It is unclear what is meant by a time of stop and operation.

Claim 21 recites the limitation “the two vectors” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 23, it is unclear what is meant by the recited “wherein a perpendicular direction of a line coupling **the two contact portions** is located, in an arbitrary cross section perpendicular to the axial direction of the conveyance roller, within a varying range of a vector direction of exertion force exerted to the bearing at a **time of stop and operation** of the conveyance roller”. (emphasis added). It is unclear what is meant by a time of stop and operation. Also, it is unclear which two contact portions are referred to in the above recitation. The two contact portions of the bearing?

Regarding claim 23, it is also unclear what is meant by the recited “wherein a perpendicular direction of a line coupling **the two contact portions** is located, in an arbitrary cross section perpendicular to the axial direction of the bearing, within a varying range of a vector direction of exertion force exerted to the bearing at a **time of stop and operation** of the conveyance roller”. (emphasis added). It is unclear what is meant by a time of stop and operation. Also, it is unclear which two contact portions are referred to in this recitation. The two contact portions of the bearing?

Claim 24 recites the limitation "the two vectors" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 24 recites the limitation "the two contact portions pertaining respectively to the bearing and the chassis" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 26, it is unclear which contact portion is claimed. There are two contact portions on the chassis and two contact portions on the bearing.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(f) he did not himself invent the subject matter sought to be patented.

4. Claims 1-2, 4-10, 12-16 and 20-22, as best understood, are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. In particular, U.S. Patent No. 6,769,683 (Hiramatsu) discloses all of the limitations of claims 1-2, 4-10, 12-16 and 20-22.

Regarding claim 1, Figs. 1 and 3-4 of the Hiramatsu patent show a recording apparatus (50) comprising:

a conveyance roller (14);

a driven roller (21) rotating as driven from the conveyance roller (14);

pressing means (22) for pressing the driven roller (21) to the conveyance roller (14);

a bearing (20) for supporting the conveyance roller (14);

driving means (9) for rotating the conveyance roller (14); and

drive transmitting means (i.e., gear near numeral 9), wherein the bearing (20) includes two contact portions (20c) with the circumference of a spindle (14a) for supporting the conveyance roller (14), and wherein the bearing (20) supports the conveyance roller (14) as to locate a perpendicular direction of a line coupling the two contact portions (20c) within a varying range of a vector direction of exertion force exerted to the bearing at a time of stop and operation of the conveyance roller. In as much as the bearing of the Hiramatsu patent has the same structure as that of the instant application, the bearing of the Hiramatsu patent will perform the recited function of claim 1.

Regarding claim 2, Figs.1 and 3-4 show that the perpendicular direction of the line coupling the two contact portions (20c) coincides to a combined vector direction of the two vectors existing at each pole in the varying range of the vector direction of the exertion force or is located closer to the vector direction of the exertion force at the time of stop of the conveyance roller than the combined vector direction.

Regarding claim 4, Figs. 1 and 3-4 show that the diameter of the spindle (14a) is smaller than diameter of the conveyance roller (14).

Regarding claim 5, column 4, line 66 to column 5, line 4 and column 5, lines 47-49 disclose that the bearing (20) supports the spindle (14a) at both sides of the conveyance roller (14).

Regarding claim 6, Figs. 3-4 show that the two contact portions (20c) are in a plane.

Regarding claim 7, Figs. 1 and 3-4 show a recording apparatus comprising:
a conveyance roller (14);
a driven roller (21) rotating as driven from the conveyance roller (14);
pushing means (22) for pushing the driven roller (21) to the conveyance roller (14);

a bearing (20) for supporting the conveyance roller (14);
a chassis (Fig. 1) for supporting the conveyance roller (14);
driving means (9) for rotating the conveyance roller (14); and

drive transmitting means (i.e., gear near numeral 9 in Fig. 1), wherein the chassis (Fig. 1) includes two contact portions for supporting the circumference of the bearing (20), and wherein the chassis (Fig. 1) supports the bearing (20) as to locate a perpendicular direction of a line coupling the two contact portions within a varying range

of a vector direction of exertion force exerted to the bearing at a time of stop and operation of the conveyance roller. Fig. 1 shows one of the bearings (20) installed in the chassis such that the chassis surrounds the bearing. As such, there are at least two contact portions, as claimed. With the structure of the bearing (20) of the Hiramatsu patent being the same as that of the instant application, the bearing of the Hiramatsu patent will perform as claimed.

Regarding claim 8, Figs. 3-4 show that the perpendicular direction of the line coupling the two contact portions (20c) coincides to a combined vector direction of the two vectors existing at each pole in the varying range of the vector direction of the exertion force or is located closer to the vector direction of the exertion force at the time of stop of the conveyance roller (14) than the combined vector direction. In as much as the structure of the bearing (20) of the Hiramatsu patent is the same as that of the instant application, the bearing (20) of the Hiramatsu patent will perform the function, as claimed.

Regarding claims 9, Figs. 3-4 show that the two contact portions (20c) are in a plane.

Regarding claim 10, Figs. 1 and 3-4 show a recording apparatus comprising:

a conveyance roller (14);

a driven roller (21) rotating as driven from the conveyance roller (14);

pushing means (22) for pushing the driven roller (21) to the conveyance roller (14);

a bearing (20) for supporting the conveyance roller (14);

a chassis (Fig. 1) for supporting the conveyance roller (14);

driving means (9) for rotating the conveyance roller (14); and

drive transmitting means (i.e., the gear near numeral 9 in Fig. 1), wherein the bearing (20) includes two contact portions (20c) for supporting the circumference of the conveyance roller (14), wherein the chassis (Fig. 1) includes two contact portions for supporting the circumference of the bearing (20), wherein the bearing (20) supports the conveyance roller (14) as to locate a perpendicular direction of a line coupling the two contact portions (20c) within a varying range of a vector direction of exertion force exerted to the bearing (20) at a time of stop and operation of the conveyance roller (14), and wherein the chassis (Fig. 1) supports the bearing (20) as to locate a perpendicular direction of a line coupling the two contact portions (20c) within a varying range of a vector direction of exertion force exerted to the bearing (20) at a time of stop and operation of the conveyance roller (14). In particular, the bearing supports the entire conveyance roller (14). As such, the bearing (20) supports the circumference of the conveyance roller (14). Fig. 1 shows one of the bearings (20) installed in the chassis such that the chassis surrounds the bearing. As such, there are at least two contact portions, as claimed. With the structure of the bearing (20) of the Hiramatsu patent

being the same as that of the instant application, the bearing (20) of the Hiramatsu patent will perform as claimed.

Regarding claim 12, Figs. 3-4 show that the diameter of the spindle (14a) is smaller than diameter of the conveyance roller (14).

Regarding claim 13, column 4, line 66 to column 5, line 4 and column 5, lines 47-49 disclose that the bearing (20) supports the spindle (14a) at both sides of the conveyance roller (14).

Regarding claim 14, Figs. 1 and 3-4 show that the perpendicular direction of the line coupling the two contact portions (20c) pertaining respectively to the bearing (20) and the chassis (Fig. 1) coincides to a combined vector direction of the two vectors existing at each pole in the varying range of the vector direction of the exertion force or is located closer to the vector direction of the exertion force at the time of stop of the conveyance roller (14) than the combined vector direction. In as much as the structure of the bearing (20) of the Hiramatsu patent is the same as that of the instant application, the bearing (20) of the Hiramatsu patent will perform the function, as claimed.

Regarding claim 15, as best understood, Figs. 1 and 3-4 show that the two contact portions pertaining respectively to the bearing (20) and the chassis (Fig. 1) are in a plane.

Regarding claim 16, Figs. 1 and 3-4 show that the contact portion pertaining to the bearing (20) and the contact portion pertaining to the chassis (Fig. 1) are located on the same line passing the center of the conveyance roller (14).

Regarding claim 20, Figs. 1 and 3-4 show a recording apparatus for forming images on a recording medium, comprising:

- a conveyance roller (14) for conveying the recording medium;
- a driven roller (21) rotating as driven from the conveyance roller (14);
- pressing means (22) for pressing the driven roller (21) to the conveyance roller (14);

- a bearing (20) for supporting the conveyance roller (14);

a chassis (Fig. 1) for supporting the bearing (20), and wherein the chassis (Fig. 1) is in contact with an outer peripheral surface of the bearing (20) and includes two contact portions disposed in parallel to an axial direction of the bearing (20), and wherein a perpendicular direction of a line coupling the two contact portions is located, in an arbitrary cross section perpendicular to the axial direction of the bearing (20), within a varying range of a vector direction of exertion force exerted to the bearing (20) at a time of stop and operation of the conveyance roller (14). In particular, Fig. 1 shows one of the bearings installed in the chassis. The chassis appears to surround the bearing (20) and contact the bearing (20) at multiple contact points around the circumference of the bearing (20). As such, at least two of these contact portions on the chassis are positioned such that they meet the requirements set forth in claim 20.

Regarding claim 21, Figs. 3-4 show that the perpendicular direction of the line coupling the two contact portions (20c) is located between a combined vector direction

of the two vectors existing at each pole in the varying range of the vector direction of the exertion force and the vector direction of the exertion force at the time of stop of the conveyance roller (14). In as much as the structure of the bearing (20) of the Hiramatsu patent is the same as that of the instant application, the bearing (20) of the Hiramatsu patent will perform the function, as claimed.

Regarding claim 22, Figs. 3-4 show that the two contact portions (20c) are in a plane.

5. Claims 1-2, 4-10, 12-16 and 20-22, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,769,683 (Hiramatsu).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.


In particular, U.S. Patent No. 6,769,683 (Hiramatsu) discloses all of the elements of claims 1-2, 4-10, 12-16 and 20-22. Note: the comparison between the elements of claims 1-2, 4-10, 12-16 and 20-22 and the elements of U.S. Patent No. 6,769,683 (Hiramatsu) is the same as the comparison outlined above in the rejection under 35 U.S.C. 102(f).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on (571) 272-6944. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DONALD P. WALSH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600